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Canada

Policy on Cost-Benefit Analysis

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Policy on Cost-Benefit Analysis

From Treasury Board of Canada Secretariat

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1. Purpose

Canada's regulatory policy, set out in the Cabinet Directive on Regulation (the directive), requires departments to analyze the costs and benefits of proposed federal regulations. This Policy on Cost-Benefit Analysis (the policy) outlines mandatory requirements for departments [1] when undertaking such analysis as part of a Regulatory Impact Analysis.

This policy is supported by the Treasury Board of Canada Secretariat's (TBS's) Cost-Benefit Analysis Guide, which provides detailed guidance on how to analyze the costs and benefits of proposed regulations.

2. Effective date

This policy takes effect on September 1, 2018.

3. Scope of application

This policy applies to all regulations to which the directive applies.

Potential costs and benefits that arise from the following are out of scope when analyzing the costs and benefits of federal regulatory proposals:

- a regulatory proposal's enabling legislation
- related policies or programs

Costs and benefits to be analyzed are those that stem from only the new requirements of the proposed regulations.

4. Context

The directive requires that:

- regulatory decision-making is supported by evidence
- decisions are based on a robust analysis of costs and benefits

In the regulatory context, cost-benefit analysis is a structured approach to identify and consider the economic, environmental and social effects of a regulatory proposal. Such analysis identifies and measures the positive and negative impacts of a regulatory proposal and any feasible alternative options [2] so that decision-makers can determine the best course of action. The analysis makes the options comparable by transforming their associated costs and benefits into:

- common units (monetizing)
- time periods (discounting)

These measures allow decision-makers to determine which option would generate the greatest net benefits to Canadians. As such, cost-benefit analysis supports evidence-based decision-making.

5. Definitions

For the purpose of this policy, the following definitions apply:

- **regulatory benefits** are:
  - the value of any anticipated incremental positive market and non-market impacts attributed to a regulation, such as health, safety, security, environmental and economic benefits
- **regulatory costs** are:
  - the value of any anticipated additional resources that affected parties (governments, consumers, businesses and other organizations) must expend in order to comply with a regulation's requirements
  - the value of any anticipated incremental negative impacts attributed to a regulation
- **incremental impacts** reflect the difference between two scenarios:
  - what would happen in the absence of the regulation (baseline scenario)
  - what is expected to happen when the regulation is implemented
- **stakeholders** are individuals or parties who have an interest or concern in federal regulations and related federal government initiatives and can include the following:
  - Canadians
  - Indigenous peoples
  - governments
  - organizations
  - businesses
  - trading partners

6. What triggers a cost-benefit analysis

In this section

- 6.1. Analysis proportionate to anticipated costs
  - 6.1.1. Regulatory proposals that have no anticipated costs
  - 6.1.2. Regulatory proposals that have a low cost
  - 6.1.3. Regulatory proposals that have a significant cost

All regulatory proposals require a cost-benefit analysis. The breadth and depth of the analysis are proportional to the anticipated costs of the proposal.

6.1 Analysis proportionate to anticipated costs

6.1.1 Regulatory proposals that have no anticipated costs

For regulatory proposals that have no anticipated costs, departments must, at a minimum:

- state that the proposed regulation has no anticipated costs
- provide a corresponding rationale of why there are no anticipated costs

Departments must provide a qualitative assessment of the benefits of a regulatory proposal. Departments may also include information on any savings that could be generated by a proposed regulation, if data is available.

6.1.2 Regulatory proposals that have a low cost

Regulatory proposals expected to impose less than $1 million nationally in average annual costs [3] are considered low-cost impact proposals. At a minimum, departments must provide a qualitative assessment of the costs and benefits. Costs and benefits may be quantified and/or monetized, if data is available.

6.1.3 Regulatory proposals that have a significant cost

Regulatory proposals expected to impose $1 million or more in average annual costs are considered significant-cost-impact proposals. Departments are to quantify and monetize both costs and benefits for such proposals. If it is not possible to quantify the benefits or costs, a rigorous qualitative analysis of costs or benefits of the proposed regulation is required, with the concurrence of TBS.

7. Analytical requirements

In this section

- 7.1. Discount rate
- 7.2. Value of statistical life
- 7.3. Social cost of greenhouse gases
- 7.4. Time period and price year
- 7.5. Sensitivity analysis
- 7.6. Distributional analysis

The Cabinet Directive on Regulation requires departments to:

- examine the potential positive and negative impacts of a proposed regulation
- examine feasible alternatives to the proposed regulation
- identify how impacts are distributed across affected parties

When quantifying and monetizing costs and benefits, departments must meet the following analytical requirements, where applicable.

7.1 Discount rate

The discount rate is the rate at which future costs and benefits are converted to their present equivalents. Discounting accounts for the fact that:

- there is a time preference for current consumption over future consumption (social discount rate)
- funds used to comply with regulatory requirements could have been invested and earned a return at the rate of the opportunity cost of capital

Departments are required to use the opportunity cost of capital specified in TBS's Cost-Benefit Analysis Guide as the discount rate except for cases where a social discount rate is more appropriate such as when:

- A regulatory proposal primarily affects private consumption of goods and services
- A regulatory proposal's impacts occur over the long term (50 years or more)

Even when a social discount rate is used, estimates of costs and benefits using the opportunity cost of capital must also be reported.

7.2 Value of statistical life

The value of statistical life (VSL) is the additional cost that individuals would be willing to pay for small reductions in risks that, in the aggregate, reduce the expected number of fatalities by one. The VSL is therefore a valuation of anticipated mortality risk reductions, not the valuation of an identifiable life.

Departments must use the VSL specified in TBS's Cost-Benefit Analysis Guide. In addition, departments:

- must express the VSL in constant dollars of their desired price year using Statistics Canada's Consumer Price Index
- may use other VSL values as part of their sensitivity analysis

7.3 Social cost of greenhouse gases

The social cost of greenhouse gases (GHGs) measures:

- the incremental additional damages that are expected from a small increase in GHG emissions

- the avoided damages that are expected from a decrease in GHG emissions

When measuring the costs and benefits associated with GHG emissions, departments must use Environment and Climate Change Canada estimates of the following: [4]

- social cost of carbon
- social cost of methane
- social cost of nitrous oxide

7.4 Time period and price year

In cost-benefit analysis, the present value of costs and benefits are provided to demonstrate the impacts of the regulatory proposal over time. Departments must provide the present value of costs and benefits based on a minimum 10-year period, starting when the regulations are registered, unless the regulations explicitly prescribe a different time period (for example, regulations that sunset before 10 years). To reflect inflation, all monetary values should be converted to a common price base year using Statistics Canada's Consumer Price Index.

7.5 Sensitivity analysis

Cost-benefit analysis relies on projections that use:

- assumptions
- parameters
- data input
- modelling techniques

Sensitivity analysis is a process to determine how plausible changes in the above factors affect the estimated costs and benefits of a regulatory proposal. Such analysis provides a range of costs and benefits that reflect uncertainty in the estimates.

Departments must conduct a sensitivity analysis for regulatory proposals that have significant costs. Low-cost regulatory proposals that quantify or monetize costs or benefits do not require a sensitivity analysis, but they may include a qualitative description of the likely impact of uncertainty in key variables and assumptions on costs and benefits estimates.

7.6 Distributional analysis

Distributional analysis determines the impact of the regulatory proposal on affected stakeholders by category, such as but not limited to:

- business size (small, medium-sized and large businesses)
- income
- age
- region
- gender

Departments are to:

- perform distributional analysis to assess how the estimated costs and benefits are distributed among stakeholders

8. Transparency requirements

In this section

- 8.1. Consultation
- 8.2. Cost-benefit analysis reports and their public availability
  - 8.2.1. Regulatory proposals that have a significant cost
  - 8.2.2. Regulatory proposals that have a low cost
- 8.3. Requirements for a Regulatory Impact Analysis Statement

In developing a cost-benefit analysis, departments must meet the following transparency requirements, where applicable.

8.1 Consultation

Departments must meaningfully consult with stakeholders at the earliest possible opportunity in the regulatory development process. Consultation may include:

- sharing data and information associated with the regulatory option(s) under consideration
- sharing proposed approaches to estimate costs and benefits

Departments must summarize their consultations in the Regulatory Impact Analysis Statement. The summary should describe:

- the groups consulted
- the input that stakeholders provided
- whether the input was taken into account

Consultation should take place before pre-publication in the Canada Gazette during the

regulation-making process.

If consultations on the cost-benefit analysis did not occur, an explanation should be stated publically in the RIAS and in the CBA report.

8.2 Cost-benefit analysis reports and their public availability

8.2.1 Regulatory proposals that have a significant cost

For regulatory proposals that have significant costs, departments must develop a cost-benefit analysis report according to the outline shown in this policy's Appendix. Departments may use their own template, provided that it covers the same topics shown in the outline.

To ensure analytical transparency, departments must either:

- post their cost-benefit analysis reports on their departmental website
- state in the RIAS that the cost-benefit analysis report is available upon request, with information on how to obtain a copy

8.2.2 Regulatory proposals that have a low cost

For low-cost regulatory proposals that quantify or monetize costs or benefits:

- a cost-benefit analysis report is not required
- costs and benefits need only be described in the Regulatory Impact Analysis Statement

Departments must ensure that they can always explain publicly how their estimates of costs and benefits were derived.

8.3 Requirements for a Regulatory Impact Analysis Statement

Departments are required to provide the following information in the cost-benefit analysis section of the Regulatory Impact Analysis Statement, as applicable:

- an overview of the conclusions of the cost-benefit analysis, including:
    - the key underlying assumptions, parameters and data
    - findings of the sensitivity analysis
    - known limitations of the analysis, including a description of costs and benefits that could not be quantified or monetized
- a table that summarizes estimated costs and benefits according to stakeholder group

- a description of consultations and engagement with stakeholders on the CBA
- a link to the cost-benefit analysis report or a statement that the cost-benefit analysis is available upon request, with information on how to obtain a copy

If costs are not monetized for a low-cost impact regulatory proposal, departments should:

- state in the cost-benefit section of the Regulatory Impact Analysis Statement that the costs are expected to be less than $1 million annually
- provide a corresponding rationale

If a regulatory proposal is anticipated to have no cost impacts, departments should:

- state in the cost-benefit analysis section of the Regulatory Impact Analysis Statement that no costs are expected
- provide a corresponding rationale

9. Accountability, roles and responsibilities

In this section

- 9.1. Treasury Board of Canada Secretariat
- 9.2. Departments

9.1 Treasury Board of Canada Secretariat

TBS is responsible for:

- overseeing, monitoring and assessing compliance with this policy's requirements
- updating and maintaining guidance on this policy

TBS will support departments in meeting the requirements of this policy through its enabling and challenge function.

9.2 Departments

Departments are responsible for:

- complying with this policy
- adhering to TBS's Cost-Benefit Analysis Guide
- undertaking early and ongoing engagement with TBS when analyzing the costs and benefits of regulatory proposals

Environment and Climate Change Canada is responsible for:

- maintaining and updating the Social Cost of Greenhouse Gases (methane, nitrous oxide, carbon dioxide)
- ensuring that the Social Cost of Greenhouse Gases are accessible on its website.
- ensuring that departments are informed of changes so that the most up-to-date estimates of these metrics are used in regulatory proposals.

10. Enquiries

Enquiries and feedback on this policy can be made by contacting TBS.

11. Date of last revision of this policy

This policy was last reviewed on September 1, 2018.

Appendix: outline of a cost-benefit analysis report

Title page

- Title of the regulatory proposal
- Author of the cost-benefit analysis
- Name of department
- Contact information for the people involved in the cost-benefit analysis

Executive summary

- Abstract
- Benefits and costs
- Cost-benefit statement
- Impacts to businesses and consumers
- Distributional impacts

Background

- Context of the regulation
- Description of the issue the proposed regulation addresses
- The regulatory proposal: overview of objectives and regulatory scenario
- The baseline scenario: description of what would happen in the absence of the regulation

Options considered

- Description of regulatory options considered

Stakeholders: profile, identification of costs and benefits, and description

- Profile of affected stakeholders
- Costs of the regulatory proposal: identification and description
- Benefits of the regulatory proposal: identification and description

Methodology: cost and benefit valuation

- Review of literature in order to value the identified costs and benefits
- Models and assumptions made in order to value the identified costs and benefits
- Approaches to sensitivity analysis
- Data description, limitations and sources

Results

- Costs estimates
- Benefits estimates
- Sensitivity analysis
- Distributional analysis

Conclusions

Appendices and references

- Data tables
- References

Footnotes

1 Throughout this document, "departments" denotes federal departments and agencies.

2 Regulatory and non-regulatory options should always be described in a Regulatory Impact Analysis Statement. In some cases, there is more than one feasible alternative regulatory option that can be considered where the choice among options depends on their relative costs and benefits. Only in such cases would a full cost-benefit analysis for each option be required.

3 Average annual costs are defined as 1/10 of total costs over a 10-year period, measured using current prices.

4 Environment and Climate Change Canada, in collaboration with the Interdepartmental Working Group on the Social Cost of Greenhouse Gases determines and updates the social costs of GHG estimates.

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